

The Advanced Energy Consortium: An International Team of Interdisciplinary Researchers, Developing a Portfolio of Nanosensor Technologies for the Oil and Gas Industry

Advanced Energy Consortium (AEC), managed by the Bureau of Economic Geology (BEG) at The University of Texas at Austin, is now completing its third year of work with 34 active research programs. Formed in January 2008, the US \$30 million consortium is directed by Scott W. Tinker and managed by a small bureau team including Jay Kipper, Sean Murphy, David Chapman, Carla Thomas, and Mohsen Ahmadian. AEC members, including BP America Inc., Baker Hughes Inc., ConocoPhillips, Halliburton Energy Services Inc., Marathon Oil Corp., Occidental Oil and Gas, Petrobras, Schlumberger, Shell, and Total, are researching micro- and nanotechnology applications for oil and gas E&P with an initial emphasis on the development of subsurface sensors. The founding members' vision for AEC is to develop micro- and nanoscale sensors that can be injected into oil and gas well bores, migrate through the fractures and pores in the reservoir, and collect real-time instantaneous data regarding the physical, chemical, and spatial characteristics of the rocks, minerals, faults, and fluids from the interwell space, thereby "illuminating the reservoir."

David T. Chapman

Project Manager, Advanced Energy Consortium (AEC)



David T. Chapman - David Chapman is a project manager with AEC (the Advanced Energy Consortium) where he manages multi-year university research projects on the development and application of subsurface nanosensors for oil and gas exploration. He has over fifteen years of advanced technology development with Motorola, Intel, Research Triangle Institute, and SEMATECH. Mr. Chapman has an M.S. and B.S. in Materials Science from North Carolina State University and an MBA from the University of North Carolina. He also has a project management certificate from George Washington University. Advanced Energy Consortium (AEC), managed by the Bureau of Economic Geology (BEG) at The University of Texas at Austin, is now completing its fifth year of work with 29 active research programs. Formed in January 2008, the US \$45 million consortium is directed by Scott W. Tinker and managed by a small bureau team including Jay Kipper, Sean Murphy, David Chapman, Carla Thomas, and Mohsen Ahmadian. AEC members, including BP America Inc., BG, Petrobras, Schlumberger, Shell, Statoil, and Total, are researching micro- and nanotechnology applications for oil and gas E&P with an initial emphasis on the development of subsurface sensors. The founding members' vision for AEC is to develop micro- and nanoscale sensors that can be injected into oil and gas well bores, migrate through the fractures and pores in the reservoir, and collect real-time instantaneous data regarding the physical, chemical, and spatial characteristics of the rocks, minerals, faults, and fluids from the interwell space, thereby "illuminating the reservoir."